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AMSAT NEWS SERVICE
ANS-198

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to: ans-editor [at] amsat.org

You can sign up for free e-mail delivery of the AMSAT News Service Bulletins via the ANS List; to join this list see: https://mailman.amsat.org/postorius/lists/ans.amsat.org/

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DATE 2022 July 17

2022 AMSAT Board of Directors Election

The nomination period for the 2022 Board of Directors Election ended on June 15, 2022. The following candidates have been duly nominated:

- Mark Hammond, N8MH
- Bruce Paige, KK5DO
- Paul Stoetzer, N8HM

In accordance with our Bylaws, we must hold an election, even though we have three nominations for three open Director positions. As such, we will host electronic voting on our Member Portal this year, at no cost to the organization. Voting is now open and will close on September 15, 2022.

When you click on the poll link, you will see your ballot (poll question). After choosing from the possible options, click the Submit button to cast your vote. Unlike many online polls, the results of all votes cast, up to the point of your vote, will not be displayed. AMSAT members can only vote once. If you click the poll link again after already voting, a vote submitted message will be displayed. As three seats on the Board of Directors are up for election this year, all three candidates will be seated on the Board when the voting period concludes on September 15, 2022.

If you need assistance logging into your membership account to vote, please follow this link: https://bit.ly/3ATZFrV

73, Paul Stoetzer, N8HM, Executive Vice President & Acting Secretary AMSAT

[ANS thanks Paul Stoetzer, N8HM, AMSAT Executive Vice President and Acting Secretary, for the above information]

40th Annual AMSAT Space Symposium and General Meeting Announced for October 21 - 22, 2022

AMSAT announces the 40th Annual AMSAT Space Symposium and General Meeting will be held on Friday through Saturday, October 21 - 22, 2022 in Bloomington, Minnesota.

The annual AMSAT Space Symposium features:
* Space Symposium with Amateur Satellite Presentations
* Operating Techniques, News, & Plans from the Amateur Satellite World
* Board of Directors Meeting open to AMSAT members
* Opportunities to Meet Board Members and Officers
* AMSAT Annual General Membership Meeting
* Auction, Annual Banquet, Keynote Speaker and Door Prizes !!

The Crowne Plaza Suites, 3 Appletree Square, Bloomington, MN, is centrally located between the Minneapolis/St. Paul International Airport, Mall of America, Minneapolis Zoo, and Nickelodeon Universe Theme Park. Crown Plaza Suites provides a complimentary scheduled shuttle to and from the airport.

Additional information about the 2022 AMSAT Symposium will be posted on the AMSAT web site, www.amsat.org as it becomes available.

[ANS thanks Robert Bankston, KE4AL, AMSAT President for the above information.]

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Call for Papers: 2022 ARRL/TAPR Digital Communications Conference

The 41st ARRL and TAPR Digital Communications Conference (DCC) will be held September 16 - 18, 2022, in Charlotte, North Carolina. Last year's conference was held virtually due to COVID-19 concerns, but this year's 3-day event will be held at the Hilton Charlotte Airport Hotel.

Technical papers are solicited for the conference. Papers will be published in the Conference Proceedings. Authors do not need to present at the conference to have their papers included in the Proceedings. Submit papers via e-mail to Maty Weinberg, KB1EIB (kb1eib(a)arrl.org) by September 1, 2022. Papers will be published exactly as submitted and authors will retain all rights.

Conference papers will be distributed as pdf’s to DCC attendees. Printed copies of the papers will be available for sale at Lulu (www.lulu.com).

Paper and presentation topic areas include, but are not limited to software defined radio (SDR), digital voice, digital satellite communication, digital signal processing (DSP), HF digital modes, adapting IEEE 802.11 systems for Amateur Radio, Global Positioning System (GPS), Automatic Position Reporting System (APRS), Linux in Amateur Radio, AX.25 updates, Internet operability with Amateur Radio networks, TCP/IP networking over Amateur Radio, mesh and peer-to-peer wireless networking, emergency and homeland defense backup digital communications in Amateur Radio.

Hilton Charlotte Airport is hosting the 2022 ARRL and TAPR Digital Communications Conference (DCC) and is now offering special room rates for the DCC at $99 per night. The special room rate is good until August 15, so make your reservations ASAP online or calling 1-800-445-8667 and ask for the “Digital Communications 2022” rates.

More information about TAPR - Tomorrow's Ham Radio Technology Today can be found that their website https://tapr.org/call-for-papers-2022-digital-communications-conference/.

[ANS thanks TAPR.org for the above information.]

Registration Now Open for NASA 2022 International Space Apps Challenge

The NASA International Space Apps Challenge, the world’s largest annual hackathon, returns this year with the theme “Make Space,” which emphasizes NASA’s commitment to inclusivity. This year’s challenge will focus on Earth and space science, technology, and exploration. Participant registration for in-person and virtual events is now open through Oct. 2.

Space Apps provides a platform where everyone across the globe with a passion for creativity and innovation can use their unique perspectives to tackle challenges created by NASA experts. The challenges range in skill level, expertise, subject matter, and objective, and span a spectrum of disciplines and interests that range from artificial intelligence and software development to art and storytelling.

“Each year, Space Apps allows thousands to engage with NASA and its partners’ open data during the hackathon,” said Thomas Zurbuchen, NASA associate administrator for the agency’s Science Mission Directorate. “It has been rewarding to see the innovative projects created by Space Apps Challenge participants and observe their potential to generate meaningful contributions toward solving some of the most difficult challenges studied by NASA on Earth and in space.”

Space Apps provides a positive and safe environment that fosters collaboration and a growth mindset. Whether participants are exploring a challenge, learning to be creative, defining team roles, learning a technical skill, or learning to cope with hiccups that arise during challenge weekend, the innovative and flexible structure of this event allows participants to walk away enriched, motivated, and excited about learning.

“Talent is everywhere, but scarcity of opportunity leaves so much talent unused and potential untapped,” said Karen St. Germain, director of NASA’s Earth Science Division. “There are so many positive stories resulting from this challenge that underscore the value of “making space” for everyone.”

Since its inception in 2012, Space Apps has created and steadily grown a global community held together by the common interest of solving problems and creating impact. The success stories directly resulting from these challenges range from the creation of new products and business ventures, innovative upgrades to existing products, and has helped connect people socially and professionally, giving them access to expertise and insight they otherwise would not have. By connecting teams to challenges and experts from space agencies across the world, participants have access to new opportunities and knowledge that can impact them for a lifetime.

This year NASA is excited to announce the addition of the Indian Space Research Organization and Mexican Space Agency to the roster of space agency partners supporting Space Apps. Valued partners returning from last year include Australian Space Agency, Brazilian Space Agency, Canadian Space Agency, ESA (European Space Agency), Japan Aerospace Exploration Agency, National Space Activities Commission of Argentina, National Space Science Agency of Bahrain, Paraguayan Space Agency, and the South African National Space Agency. Space agency partnership encourages more extensive global collaboration and provides a broader platform for participants to contribute to the fields of Earth and space science and technology through Space Apps.

Space Apps is managed by NASA’s Earth Science Division in the agency’s Science Mission Directorate at NASA Headquarters in Washington. It is organized in collaboration with Booz Allen Hamilton, Mindgrub, SecondMuse, and the NASA Open Innovation Applied Sciences Program. Learn more about Space Apps and how to get involved on their website.

For more information about Space Apps and to register for an in-person or online event on Oct. 1-2, 2022, visit https://bit.ly/3IEItbL

[ANS thanks JoAnne Maenpaa, K9JKM and NASA for the above information.]

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volume up, and talk on the crossband repeater. So give a listen, you just never know.

The latest information on the operation mode can be found at
https://www.ariss.org/current-status-of-iss-stations.html

The latest list of frequencies in use can be found at https://www.ariss.org/contact-the-iss.html

[ANS thanks Charlie Sufana, AJ9N, one of the ARISS operation team mentors for the above information]

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Changes to AMSAT-NA TLE Distribution for July 17, 2022

The following satellite has been added to this week's AMSAT-NA TLE distribution:
CTIM NORAD Cat ID 52590 (Thanks to Nico Janssen, PA0DLO for identification).

The following satellite has decayed from orbit and has been removed from this week's AMSAT-NA TLE distribution:
Maya-2 NORAD Cat ID 47929 (decayed form orbit on 7/6/2022 per Space-Track).

[ANS thanks Ray Hoad, WA5QGD, AMSAT Orbital Elements Manager, for the above information]

Hamfests, Conventions, Maker Faires, and Other Events

AMSAT Ambassadors provide presentations, demonstrate communicating through amateur satellites, and host information tables at club meetings, hamfests, conventions, maker faires, and other events.

AMSAT Ambassador Schedules:

Clint Bradford, K6CLS: “How to Work the “Easy” Satellites” talks:

Knee repair surgery isn’t stopping Clint Bradford K6LCS from continuing to perform AMSAT presentations!

The Metrocrest Amateur Radio Society in Carrollton, Texas is scheduled for Thursday, 07/14/2022. And SOARA - South Orange ARA (CA) in August.

Think a lively, informative session on “working the easy satellites with equipment most hams already own” would be appropriate for your event or meeting? Call or email!

Clint Bradford K6LCS
AMSAT Ambassador
909-999-SATS
http://www.work-sat.com

Jack Spitznagel, KD4IZ: SDR applications - "Using the RF “Swiss Army Knife”: An intro to the AMSAT Fox-In-A-Box Image" - Live presentation scheduled July 18, 2022 the Frederick Amateur Radio Club, Frederick, MD
For information on this presentation and availability, contact Jack Spitznagel, KD4IZ, AMSAT Ambassador, (kd4iz at arrl dot org)

Scheduled Events with AMSAT involvement:

Hamfests and Conventions

+ Satellite Educators Association 35th Annual Convention
Friday, July 29, 2022 to Saturday, July 30, 2022
California State University, Los Angeles and on-line
www.sated.org

Fredric Raab, KK6NOW, will be presenting “Classroom Activities with the AMSAT CubeSat Simulator” showcasing the work by the CubeSatSim Educational Materials Team: Paul Graveline, K1YUB, Alan Johnston, KU2Y, Fredric Raab, KK6NOW, Mark Samis, KD2XS and David White, WD6DRI.

+ 2022 Rocky Mountain ARRL Division Convention
  October 7, 2022 - October 9, 2022
  Event Center at Archer
  3921 Archer Pkwy
  Cheyenne, Wyoming 82007
  https://wyhamcon.org/site.

[ANS thanks Paul Overn, KE0PBR, AMSAT Events Page Manager, for the above information]

Satellite Shorts From All Over

+ Webb's first images. NASA, CSA, and ESA released the first images from JWST, showing stunning views of our Universe that clearly display the telescope's scientific potential. The first images detail Stephen's Quintet (four neighboring galaxies that are actively interacting—the fifth is just photobombing them), the Southern Ring Nebula (a binary system in the throes of mass ejection from a white dwarf), the Carina Nebula (see below, a cavity carved out in the nebula by young stars' intense ultraviolet emissions), and a deep field of SMACS 0723, captured in just 12.5 hours, that looks back to a galaxy 4.6 billion years ago. The deep field represents a portion of the sky the size of a grain of sand held at arm's length—for comparison, Hubble's deep field images took multiple weeks to capture (here's a tool to compare available WWT imagery to JWST's first images). The JWST team also released spectra for exoplanet WASP-96b, showing a signature of previously undetected water in its atmosphere. The future looks bright for the long-awaited successor to the great observatories! See the gallery at: https://bit.ly/3Ogpa9z [ANS thanks The Orbital Index for the above information.]

+ Following communications issues, mission teams for NASA's Cislunar Autonomous Positioning System Technology Operations and Navigation Experiment (CAPSTONE) have re-established contact with the spacecraft through NASA's Deep Space Network. Data received from CAPSTONE shows that the spacecraft is in good health and operated safely on its own while it was out of contact with Earth. Teams are preparing to carry out CAPSTONE's first trajectory correction maneuver — which will more precisely target CAPSTONE's transfer orbit to the Moon — as early as 11:30 a.m. EDT on July 7. As originally planned, CAPSTONE will arrive to its lunar orbit on Nov. 13. [ANS thanks Sarah Frazier of NASA for the above information.]

+ NASA's Starlings. NASA's aptly named Starling satellite "swarm" mission consists of four 6U CubeSats which will practice formation flying, autonomous control, ad hoc inter-satellite networking, and autonomous collaboration by measuring the Earth's ionosphere using GPS signals. The Starlings will launch on Firefly Aerospace's first commercial launch, hopefully, this fall. NASA envisions future swarms of autonomously-operating CubeSats in deep space working together to collect distributed science data and perform observations. An example is the upcoming HelioSwarm, a 9-satellite, $250m mission planned for 2028 to study solar wind turbulence. HelioSwarm's hub, built by Northrop Grumman, would coordinate with eight smallsats from Blue Canyon Technologies to provide simultaneous, multiscale observations of the solar wind. [ANS thanks The Orbital Index for the above information.]

+ AstroBio Cubesat is operational and working: Nader Omer ST2NH retweeted that Augusto Nascetti (@auo1971), from the ABCS team, reported on Twitter that he had "Just received live a message from US through #AstroBioCubeSat digipeater sent by WA7FWF!!!" Congratulations to the team for putting an Amateur Radio capable 3U CubeSat into MEO orbit. Nader added by email a link to the TLE and to information regarding the mission: https://bit.ly/3OaIkxU [ANS thanks Nader Omer, ST2NH for the above information]

Join AMSAT today at https://launch.amsat.org/

In addition to regular membership, AMSAT offers membership to:

* Societies (a recognized group, clubs or organization).
* Primary and secondary school students are eligible for membership at one-half the standard yearly rate.
* Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status.
* Memberships are available for annual and lifetime terms.

Contact info [at] amsat.org for additional membership information.

73 and remember to help Keep Amateur Radio in Space!

This week's ANS Editor, Jack Spitznagel, KD4IZ
kd4iz at arrl dot org